

for young beginners; they are suitable, rather, for educated readers of maturer years, who desire to acquaint themselves with modern advances in the subjects in which they are interested.

L'Assaut du Pole Sud. By l'Abbé Th. Moreux. Pp. 221. (Paris: Jouve et Cie., 1911.) Price 1.50 francs.

This popular account of the various expeditions in Antarctic regions, arranged chronologically, will appeal to many readers. In English schools it might serve the double purpose of an interesting French text and leisure-hour reading in geography. The story is brought down to the present day and is illustrated, some of the pictures being views taken by Dr. Charcot on the *Pourquoi-Pas?*

Subject List of Works on Chemical Technology in the Library of the Patent Office. New Series, YN-ZB. Pp. iv+171. (London: The Patent Office, 1911.) Price 6d.

THE present list is concerned with oils, fats, soaps, candles, and perfumery; paints, varnishes, gums, resins, and india-rubber; and the paper and leather industries. With the volume, new series YK-YM, it supersedes "Patent Office Library Series, No. 7," published in 1901.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

The Late Sir Francis Galton.

I AM engaged on a memoir dealing with the life and work of the late Sir Francis Galton. He had a very wide correspondence, the width of which can only be appreciated by those who have seen the replies to his letters. Many of these are of great interest and value, and deal with important scientific problems. The main bulk of the letters start with 1885, although there are isolated letters from de Candolle, Speke, Buckland, Clerk Maxwell, and others from 1860 onwards. The letters from Francis Galton which led to these replies may still exist. May I appeal to any of your readers who have letters from Francis Galton to lend them to me for the preparation of this memoir? I should value especially any letters from 1850 to 1880; but all will be of value. Letters sent to me shall be carefully preserved, and returned if the owner desires it. Any letters which the owners are willing to present to this laboratory will be filed in the Galtoniana, which already contain many Galton manuscripts. KARL PEARSON.

Galton Laboratory for National Eugenics.

The Kaiser-Wilhelm Institut für physikalische Chemie und Elektrochemie at Dahlem, near Berlin.

ON October 1 Prof. F. Haber began his work as director of the new Kaiser-Wilhelm Institut für physikalische Chemie und Elektrochemie at Dahlem, near Berlin. The buildings of the institute, work upon which was begun during the summer of this year, are being erected by the Prussian Government working in conjunction with the "Koppel-Stiftung" for the purpose of improving the intellectual relations of Germany with other lands.

The Koppel-Stiftung, which was founded in Berlin some years ago by Geheimer Kommerzienrat Leopold Koppel, and until now has maintained the German School of Medicine in Shanghai and the American Institute in Berlin, will provide the funds for the erection of the new institute, and will also give 35,000 marks annually for its maintenance during a period of ten years. The Prussian Government has provided the site, which is situated at the terminus of the new underground railway from the centre of Berlin to Dahlem, and has endowed the institute with the sum of 50,000 marks annually.

The institute will be controlled by a board consisting of

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two representatives of the German Government, two representatives of the Koppel-Stiftung, and the director of the institute. The director has an absolutely free hand in the choice of his work, his fellow-workers, and his assistants.

For the admission of investigators who wish to follow their own lines of investigation in the institute with their own means, the director must have the assent of the board of control.

The institute will consist of scientific and technical departments in separate buildings. The building of the scientific department is 600 square metres in ground area, and has a basement, entirely underground, containing constant temperature rooms. On the ground floor are the professor's laboratory and consulting room, the offices, the calibrating room in which are to be kept the necessary laboratory standards, the mechanic's workshop, and a lecture theatre to seat twenty-five persons. Further lecture-rooms are not provided in the building, as *teaching in the ordinary sense is not contemplated in the institute.* The first floor will be devoted to the library, chief assistant's room, glass-blowing room, and a laboratory for eight research men. On the second floor are the living rooms for the mechanic and his family, since the mechanic also acts as caretaker. This floor also contains rooms for photo-chemistry, for scientific collections, and workplaces for several more research workers.

The building is connected by a corridor with the technical department, the most important feature of which is the machinery hall, with a floor space of 200 square metres. This hall is surrounded by smaller rooms for chemical preparations, high-voltage and heavy-current work, and a blacksmith's shop. The ground floor of the technical building contains a consultation room and the laboratory of the assistant in charge of that department. On the first floor is living accommodation for two assistants and an engine-man, and also a room for the serving of refreshments.

The director's house will be erected in the grounds of the institute.

Although there exists no stipulation on the point, *it may be taken as a rule that, on account of the fact that no teaching as such is to be undertaken, only such students will be admitted by the director as have already finished their normal university course and desire a wider experience in scientific research.* There are no restrictions whatever as to the nationality of the men admitted by the director.

The director of the institute, Prof. Haber, was born in Breslau in 1868, and obtained his Ph.D. in Berlin in 1891. After obtaining his degree he spent several years partly in technical work and partly in securing further scientific training. In 1894 he went to Karlsruhe, and was appointed Privat-dozent in chemical technology in 1896 and associate professor in 1898. In 1902 he was sent to America by the Bunsen Society of Applied Physical Chemistry to study the system of chemical instruction and the condition of electrochemical industries in the United States. In 1906 he was appointed to the post of professor in physical and electrochemistry in Karlsruhe, where he built up the best equipped research laboratory of physical chemistry in the world. Students from all parts of the world were attracted to this laboratory to such an extent that its accommodation was insufficient to allow all of them to enter, even although Prof. Haber admitted as many as forty men at one time as research workers. What was most remarkable was that he personally directed the work of all these men, and often aided them in their experimental work. In 1907 he was called to take the place of Lunge in Zürich as professor of chemical technology, and in 1909 he was asked to undertake the control of one of the largest chemical works in Germany, but he declined both these appointments.

Prof. Haber introduced into Germany the rational method of instruction in elementary chemistry as embodied in the laboratory outline written by Prof. Alexander Smith. This book was translated into German by Prof. Haber and Fritz Hiller. The two books, "*Lehrbuch der technischen Elektrochemie auf wissenschaftlicher Grundlage*" (1898, now out of print) and "*Thermodynamik technischer Gasreaktionen*" (1905; English edition 1908), together with numerous contributions to the *Zeitschrift für Elektro-*

chemie, Wiedemann's *Annalen*, and the *Zeitschrift für physikalische Chemie*, constitute his literary activities.

One of Prof. Haber's most important researches was that upon the ammonia gas equilibrium at high temperatures. This work resulted in the development of a commercial method for the manufacture of pure ammonia directly from the elements by the use of osmium or uranium as a catalyser. Another important series of researches was that upon the properties of flames, including the gas equilibria involved, the ionisation and conductivity of the gases, and the action of the ions as catalysers. He has spent much time during the last few years upon the study of the escape of electrons from the reacting surfaces of metals, and the effects of electrons upon gas equilibria and upon the velocity of chemical reactions. His other recent researches have been mostly upon the following subjects:—the electromotive force of the oxyhydrogen cell at high temperatures; the oxidation of nitrogen in the high-potential arc; a gas refractometer for the optical analysis of gases according to Rayleigh's principle; electrical forces at phase boundaries; the corrosion of iron by stray currents from street railways; the reduction of hydroxylamine; the use of solid materials, such as glass and porcelain, as electrolytes; the equilibrium between magnesium chloride and oxygen; electrode potentials and electrolytic reduction; the laboratory preparation of aluminium; the preparation of hydrogen peroxide by electrolysis; experiments on the decomposition and combustion of the hydrocarbons; and autoxidation.

The writer wishes to thank Dr. Fritz Hiller, of Berlin, for the greater part of the information contained in this letter. The statements in regard to the purposes and government of the institute are official.

WILLIAM D. HARKINS.

University of Montana, September 30.

The Weather of 1911.

THAT the year which is now drawing towards its close has been, as regards weather, a true *annus mirabilis* is a commonplace of conversation, and all the more so by reason of the contrast between this and last year. Not only has the summer been remarkable for its length, its heat, its brilliance, but the autumn, even since the weather has broken, has been characterised, unless I am mistaken, by an unusual tendency to relapse into bright sunshine: the storms have cleared up with great rapidity; the sunshine has been peculiarly clear, and mist and fog remarkably rare.

Now for these exceptional phenomena there must be some exceptional cause, or combination of causes. Can any of our meteorologists say what it is? I do not ask for a statement of causes such as the prevalence of anticyclones in a particular direction or the continuance of given winds, for such facts are only part of the phenomena to be explained; but I want to know whether any real cause can be assigned for the general character of the weather.

EDW. FRY.

Failand, November 8.

Dew-ponds in 1911.

THE pond near Chanctonbury, referred to by Mr. J. P. Clatworthy in *NATURE* of November 2 (p. 8), has generally been regarded as an ancient one; and I may perhaps direct attention to a statement in vol. lvii. of the "*Sussex Arch. Collections*" to the effect that it was made by the Rev. J. Goring, the father of the present owner. If this be correct, and the word "made" should not read as "re-made," there is, apparently, no ground for attributing the pond and its fortifications to Neolithic or any other ancient people.

A visit to St. Martinsell Hill, Wilts, on September 18 showed how disastrous had been the effects of the long drought. The pond near to the shepherd's cottage was dry except for a small circle of mud at the bottom. When normally full it could not have been more than 2 feet deep; and the whole area was strewn with loose angular flints. The occupier of the cottage stated that the pond had never previously dried up during the seventeen years she had been there. The sheep on the downs had nearly all gone, there being no "feed" for them. In short

droughts the dew seems to be sufficient to maintain the "feed"; but this year the absence of rain for so long brought about a remarkable absence of dew, and the dependence of dew upon earlier fallen rain seems to be an established fact.

Another pond is to be seen about a quarter of a mile to the north of the cottage on level ground. It has a large hole in the centre some 5 feet deep. This pond was quite dry. A quantity of puddle had been removed from the depression.

Another pond-depression occurs south-west from the cottage and barn, at the beginning of the spit of down which here juts out over the low-lying land of the Vale of Pewsey. It is grass-grown, and has several Scots pines growing in it. There is no good reason to think it was a "quarry," or even a "tally-house," as has been alleged. It was dry.

Further west along this narrow spit of land, and beyond the great ditch and vallum known as Giants' Graves, is an empty pond-depression about 20 feet across, constructed in a most convenient position if only it had water. It has apparently been grass-grown for many years—another instance of the extraordinary neglect of modern-day farmers.

All these ponds were circular. On descending on the east of St. Martin's Hill towards Wootton Rivers, past a series of mounds like swellings on the side of the hills, called by some authors "pit-dwellings," I noticed a square pond at the edge of a field. This was also dry. But a little nearer Wootton Rivers, at the side of the road, was a pond full of water. This was on the low ground beneath the hills; and the secret of its success lay in the fact that it was almost surrounded by tall trees, some of which completely overhung the pond. Thus evaporation was reduced to a minimum in the heat of the summer sun, whilst it may have been replenished by the condensation on the leaves of the trees.

It was observed that a concrete pond was being built on a slight eminence in a field near at hand, and it was stated in the village that a boring was being made for water.

There is a moral. In the first place, farmers do not make their ponds deep enough. In the next place, they neglect them until they dry up. Finally, when they do repair them, they remove the puddle at the bottom in the process of cleaning, and then wonder why the ponds fail to hold water.

EDWARD A. MARTIN.

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The Research Defence Society and Anti-Vivisection Shops.

WE desire to make a special appeal for the purpose of undoing the harm which is done by anti-vivisection shops and processions. The exhibits in these shops are of a most misleading nature: and the truth as to anaesthetics is carefully concealed. No operation, more than the lancing of a vein just under the skin, is allowed to be done on any animal in this country, unless the animal is under an anaesthetic throughout the whole of the operation.

It will be remembered that one of these shops, on the death of H.M. King Edward VII., distributed a leaflet suggesting that his Majesty's death was due to medical treatment.

We have, of course, received many complaints against these shops. We find that the police have no power to close them: and we can only place men outside them, to give our leaflets to passers-by.

But this constant giving of literature is a heavy expense to our Society. We therefore appeal for special contributions toward this purpose. We make this appeal with confidence, for we are sure that the public recognises the grave harm which is done by these shops, especially to children. All contributions should be sent to the Hon. Treasurer, Research Defence Society, 21 Ladbroke Square, London, W.

We may, perhaps, take this opportunity of mentioning that a letter has just been received from Sir Apolo Kagwa, K.C.M.G., the Prime Minister of Uganda. It is dated from Mengo, Uganda, September 26. "I really think," he says, "that in a few years' time sleeping sickness will be extinct in Uganda, and people will become immune from